UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 6
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OCT 24 2013

Mr. Michael Parrish
Office of Legal Services (MC-205)
Texas Commission on Environmental Quality
P.O. Box 13087
Austin, Texas 78711-3087

Dear Mr. Parrish:

The Environmental Protection Agency (EPA) appreciates the opportunity to review the proposed revisions to the *Texas Surface Water Quality Standards* and is providing comments in the enclosure to this letter.

These proposed revisions represent a significant commitment from the Texas Commission on Environmental Quality (TCEQ), and extensive coordination with numerous entities at the federal, state, and local levels. EPA supports many of the revisions proposed by TCEQ; however, we have identified one key area of concern related to the proposed revisions to recreational uses for three water bodies in Appendix G. Recreational use attainability analyses (RUAAs) were conducted following TCEQ's detailed protocols for several water bodies, including Resley Creek, South Leon River and Indian Creek. The results of the RUAAs suggest that retaining the primary contact recreation use is appropriate for Resley Creek and South Leon River, and that a secondary contact recreation 1 use may be appropriate for Indian Creek.

Please note that the positions described in our enclosed comments are preliminary in nature and do not constitute a disapproval or determination by EPA under Clean Water Act §303(c). Approval and disapproval decisions will be made by the Region following adoption of new or revised standards by the state and submittal to EPA. Any determination pursuant to Clean Water Act §304(c)(4)(B) may only be made by the Administrator.

We hope these comments are helpful to TCEQ for its rulemaking process. We appreciate the efforts of the TCEQ - Office of Water to address issues of concern to EPA. If you have any questions or would like to arrange a conference call to discuss any of these comments, please contact me at (214) 665-7135.

Sincerely,

Jane B. Watson, Ph.D.
Associate Director
Ecosytems Protection Branch

Enclosure

cc: Mr. Kelly Holligan, TCEQ – Water Quality Protection Division (MC-203)

Comments on Proposed Revisions to Texas Surface Water Quality Standards

§307.3. Definitions and Abbreviations

Industrial cooling water area: The proposed definition is acceptable, however, we suggest adding a reference to the mixing zone provision in §308.8(b) in the definition.

Total maximum daily load [TMDL]: Based on the federal regulation at 40 CFR §130.2(i), EPA recommends adding the following sentence to the definition: "A TMDL is calculated as the sum of individual waste load allocations for point sources and load allocations for nonpoint sources and natural background."

§307.4 – General Criteria

§307.4(f) Temperature: The proposed language is acceptable. We look forward to additional discussion with the Texas Commission on Environmental Quality (TCEQ) on the development of detailed implementation procedures for establishing size limitations for industrial cooling water areas.

§307.6 – Toxic Materials

§307.6(d)(2) – Table 2 Criteria In Water For Specific Toxic Materials Human Health Protection

The proposed revisions for the mercury criteria represent the criteria currently effective under the CWA; however, EPA continues to recommend the adoption of the §304(a) nationally recommended water quality criterion of 0.3 mg/kg (measured in fish tissue).[1] This value has undergone extensive peer review by the U.S. National Academy of Sciences, National Research Council. In 2010, EPA also published companion implementation guidance to address issues associated of the new water quality criterion and to facilitate implementation of the criterion in the TMDL and permitting programs.[2]

Although the proposed criteria (measured in the water column) for 4,4'-DDD, 4,4'-DDE, 4,4'-DDT, dioxins/furans and polychlorinated biphenyls (PCBs) are technically acceptable, EPA recommends retaining the current criteria for these substances (measured in fish tissue). Fish tissue is a preferred and more cost-effective indicator of levels of PCBs, dioxins/furans and DDT compounds in surface waters. Water column concentrations of these pollutants vary widely over time depending on environmental conditions, while tissue concentrations take into account concentrations over long durations. Monitoring for DDT and PCBs in fish tissue (along with mercury) is considered a core indicator for fish consumption in EPA's Consolidated Assessment and Listing Methodology (CALM) - please see Table 10-1.[3] In addition, monitoring of fish tissue for these compounds assists agencies in meeting the Clean Water Act (CWA) §101(a)(2) goals of "fishable" and "swimmable" waters. Although TCEQ's current criteria may be more stringent than those used by the Texas Department of State Health Services, listing impaired waters under CWA §303(d) using the current tissue-based criteria, along with the development and implementation of TMDLs, may obviate the need to issue consumption advisories in the future.

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[1] USEPA. 2001. *Water quality criterion for the protection of human health: Methylmercury*. EPA-823-R-01-001. U.S. Environmental Protection Agency, Office of Water, Washington, D.C. (http://www.epa.gov/waterscience/criteria/methylmercury/document.html)

[2] USEPA. 2010. *Guidance for Implementing the January 2001 Methylmercury Water Quality Criterion*. EPA 823-R-10-001. U.S. Environmental Protection Agency, Office of Water, Washington, DC. (http://water.epa.gov/scitech/swguidance/standards/criteria/aqlife/methylmercury/index.cfm)

[3] USEPA, 2002. *Consolidated Assessment and Listing Methodology, Toward a Compendium of Best Practices*, First Edition. July, 2002. United States Environmental Protection Agency. (http://water.epa.gov/type/watersheds/monitoring/calm.cfm)

We also have comments on proposed criteria for the following two substances:

- Hexachlorophene: We believe there was a calculation error based the revised BCF of 278 in both of the proposed criteria. Although the differences are minor, the correct values are 2.04 ug/L (water and fish criterion) and 2.90 ug/L (fish only criterion).

- Tetrachloroethylene: We appreciate incorporation of the updated reference dose and cancer potency factor published by EPA in 2012. For tetrachloroethylene, the criterion for non-carcinogenic effects (based on exposure factors for children) is more protective than the proposed criterion of 622 ug/L for carcinogenic effects. We recommend adoption of the lower value of 525 ug/L, for consumption of fish.

§307.7 – Site-specific Uses and Criteria

Under §307.7(b)(2)A)(ii), a second level of primary contact use is proposed for freshwater, with an *E. coli* criterion of 206 colonies per 100 ml (geometric mean). The Primary contact recreation 2 use is also proposed in related provisions in §307.3 - Definitions and Abbreviations and in §307.4 - General Criteria of the Texas water quality standards (WQS). At this time, no revisions from a primary contact recreation 1 use to the primary contact recreation 2 use have been proposed in Appendix A or Appendix D.

Please note that the proposed criterion of 206 colonies per 100 mL does exceed the recommendations included in EPA's 2012 Recreational Water Quality Criteria document.[4] States may choose another illness rate if it would protect the designated use of primary contact recreation, which EPA would evaluate as part of the state's submission. Also, EPA notes that the agency made the following statement on page 37 of the 2012 criteria document: "some nonhuman fecal sources (cattle in particular) may pose risks comparable to those risks from human sources." This type of information should be considered prior to the adoption of a primary contact recreation 2 use for specific waters.

§307.9. Determination of Standards Attainment

§307.9(c)(2). Collection and preservation of water samples. We appreciate the proposed language to address the applicability of measurements taken at depth in deeper water systems when such systems are not stratified. We also suggest including additional language, such as that shown below, to address monitoring in stratified waters:

> For those instances where the water column is not entirely mixed according to determinations described in TCEQ *Guidance for Assessing and Reporting Surface Water Quality in Texa*s as amended, alternative methods may be used in which case the water quality standards apply to any sample taken in the water column for parameters indicated in this section.

In addition the first sentence could be modified to read: "Bacterial and temperature determinations must be conducted on grab samples or in situ measurements…"

§307.9(e)(3). Bacteria. We appreciate the proposed removal of language related to the exemption of data collected during higher flow events from use the assessment process. Regarding the proposed language, the TCEQ implemented a slightly different methodology in the 2012 §303(d) list, as used in previous years, for the assessment of bacteria data. TCEQ developed the 2012 methodology with the intention of accounting for variability to increase the confidence that a correct assessment decision was being made. EPA concurred with TCEQ's assessment process and found the methodology to be consistent with both EPA's assessment guidance

[4] U.S. EPA. 2012b. Recreational Water Quality Criteria. 820-F-12-058. (http://water.epa.gov/scitech/swguidance/standards/criteria/health/recreation/index.cfm)

(CALM) and the Texas WQS. Please note that under EPA's current evaluation process for determining whether a provision is considered a standard under CWA §303(c), we may consider the proposed language to be an assessment provision rather than a water quality standard.

Appendix A - Site-specific Uses and Criteria for Classified Segments

In the seventh paragraph of the introduction, related to temperature, would it be appropriate to add a reference to the proposed provisions for industrial cooling water areas? A phrase such as "…except as noted in §307.4(h) and §307.8(b)" could be added to end of this sentence.

EPA will provide separate review of use attainability analyses (UAAs) supporting the proposed revisions of aquatic life uses and dissolved oxygen criteria in the following water bodies:

- Segment 0607 - Pine Island Bayou
- Segment 0704 – Hillebrandt Bayou
- Segment 2107 - Lower Atascosa River
- Segment 2118 – Upper Atascosa River
- Segment 2311 – Upper Pecos River
- Segment 2485 – Oso Bay
- Segment 2490 – Upper Laguna Madre

EPA will review any additional documentation, in addition to the previously submitted UAA, for the proposed limited aquatic life use applicable to the benthic community in segment 0305 – North Sulphur River. We will also review documentation relating to the proposed changes to minerals criteria for specific segments in the Red, Brazos, Nueces and Rio Grande River basins and the proposed removal of the drinking water use in segment 1110 –Oyster Creek and (new) segment 1258 – Middle Oyster Creek. There is a typographical error in the chloride criterion for segment 0826 – Grapevine Lake. Assuming no revision is proposed, the chloride criterion for this water body should be 80 mg/L.

The pH criteria in segment 0302 – Wright Patman Lake is proposed to shift upward to a range of 6.5-9.5 (current criteria is 6.0-8.5). EPA requests additional documentation to substantiate the protectiveness of pH levels above 9.0 for aquatic life communities. No additional information is needed for changes at either end which fall between 6.5 and 9.0, which is EPA's recommended criteria. However, we would appreciate receiving electronic versions of the datasets used calculate the revised criteria in segment 0605 – Lake Palestine and 0818 – Cedar Creek Reservoir, as well the data for Wright Patman Lake.

Finally, as stated during previous triennial revisions, EPA strongly recommends that aquatic life uses be adopted for segments 1006 and 1007 of the Houston Ship Channel. Data has been collected to demonstrate that an aquatic life use is justified. In accordance with this recommendation the dissolved oxygen standards should be evaluated. Increasing the dissolved oxygen standards from 1.0 mg/L to 2.0 mg/L for 1007 and from 2.0 mg/L to 3.0 mg/L for segment 1006 are recommended to protect the actual aquatic life use. The adoption of uses and revised standards would allow a transition to a dissolved oxygen standard of 4.0 mg/L and high quality aquatic life use for segment 1005. The present transition from a standard of 2.0 mg/L to 4.0 mg/L may result in impairment around the segment boundary (in the vicinity of the monument). Data assessed for the 2012 Integrated Report indicates that there are very few, if any, criteria exceedences in each of the assessment units within segments 1006 and 1007.

Appendix B - Sole-source Surface Drinking Water Supplies

We defer to TCEQ on the list of individual waters that should be included in Appendix B, but have questions regarding two proposed deletions, based on information from TCEQ's *Drinking Water Watch* (DWW) database and other resources:

- Big Cypress Creek below Lake O' the Pines (segment 0402) is proposed for deletion from Appendix B. However, DWW indicates that the City of Marshall only uses surface water from this segment. The 2012 Drinking Water Quality Report also states that the City uses surface water from Big Cypress Bayou.
- Lavon Lake (segment 0821) is proposed for deletion from Appendix B. Although the North Texas Municipal Water District is constructing a pipeline from Lake Texoma to the Wylie Treatment Plant (at Lake Lavon), DWW indicates that Lake Lavon is currently the only water supply. DWW also indicates another source ("SW FROM NORTH TX TAWAKONI WTP") is proposed, but not active at this time.

Appendix C – Segment Descriptions

The proposed changes in Appendix C are generally acceptable. EPA will review the aquatic life UAAs for documentation supporting the new and revised boundary in segment 0607 – Pine Island Bayou above Tidal, segment 2107 – Lower Atascosa River, segment 2118 – Upper Atascosa River, segment 2490 – Upper Laguna Madre, and segment 2491 – Lower Laguna Madre.

It may be helpful to revise the description for the upper end of segment 0607 – Pine Island Bayou to read "….the confluence with Willow Creek in Hardin/Jefferson County," since Pine Island Bayou is the boundary between these two counties and Willow Creek flows south through Jefferson County.

Appendix D – Site-specific Uses and Criteria for Unclassified Water Bodies

Several of the new entries proposed in Appendix D are upgraded from, or confirmation of, the presumed aquatic life uses and will not require additional documentation for EPA review. EPA will provide separate review of the UAAs supporting the proposed revisions of aquatic life uses and dissolved oxygen criteria in the following water bodies:

- Boggy Creek (within segment 0607)
- Pine Island Bayou (within segment 0607)
- Willow Creek (within segment 0607)
- Cypress Creek (within segment 0608)
- Town Creek (within segment 0831)
- Flag Lake Drainage Canal (within segment 1111)
- Skull Creek (within segment 1402)
- Atascosa River (within segment 2118)

We believe that an older UAA has been inadvertently omitted from Appendix D. A UAA was completed in 1999 for Spring Branch located in Chambers County, which is a different water body than the existing entry for Spring Branch in Appendix D (also within segment 0801, but in Liberty County). The 1999 UAA recommended an intermediate aquatic life use for Spring Branch from the confluence with Lee Gully upstream to approximately 3.09 km north of the confluence with Albritton Gully. TCEQ may wish to add this water body in the next triennial revision.

As previously discussed with TCEQ, Walnut Creek (currently identified within segment 0809 and Parker and Upshur Counties), should be revised to reflect the Walnut Creek located within segment 0409 (Upshur County). A receiving water assessment, which confirmed the presumed high aquatic life use, was previously completed for this water body.

TCEQ may also wish to review the previously completed UAA for Dry Creek (within segment 1009 in Harris County) to verify the boundaries. The upper boundary for the portion assigned a limited aquatic life use is identified as "Harris County Flood Control District ditch K-145-05-00, 0.29 km upstream of Spring Cypress Road." However, in Figure 1 of the UAA, the ditch labeled K145-05-00 is several kilometers upstream of Spring Cypress Road. A ditch labeled as K145-01-00 is just upstream of Spring Cypress Road.

The site-specific criteria for the Lavaca River (within segment 1602) proposed in footnote 15, are acceptable based on the UAA submitted for the 2010 revision of the Texas WQS.

Appendix E – Site-specific Toxic Criteria

EPA has previously completed technical review of the proposed criteria based on water effect ratio (WER) studies for the following water bodies (facility):

- Mill Creek (City of Canton)
- Neches River (ExxonMobil)
- Lake Stryker (Luminant)
- Cantrell Slough (Upper Trinity Regional Water District)
- Phillips Ditch/Santa Anna Bayou (Oxy Vinyls)
- Phillips Ditch/Santa Anna Bayou (Akzo Nobel Chemicals)

EPA has also completed technical review of a WER study for copper developed by the City of Port Lavaca and recently received final reports for a copper WER study from the Calabrian Corporation and a zinc WER study from for an Akzo Nobel Chemicals plant (same facility in the above list). If the public comment periods are completed through the TPDES permitting process prior to the adoption of the final WQS, it would be appropriate to include those criteria in Appendix E.

We also note that an editorial correction in the introductory paragraph may be needed. In the last sentence, the reference to footnote 3 of Appendix A should be revised to specify Appendix E.

Appendix G – Site-specific Recreational Uses and Criteria for Unclassified Water Bodies

EPA has previously reviewed the recreational use attainability analyses (RUAAs) for water bodies proposed for addition to Appendix G. We concur that the proposed revisions are appropriate, pending review of any comments submitted during this public comment period and from earlier opportunities, for the following water bodies:

- Big Sandy Creek (within segment 0810)
- Garrett Creek (within segment 0810)
- Salt Creek (within segment 0810)
- Navasota River Above Lake Mexia (within segment 1210)
- East Yegua Creek (within segment 1212)
- Walnut Creek (within segment 1221)
- Bullhead Bayou (within segment 1245)
- unnamed tributary of Bullhead Bayou (within segment 1245)

However, we have concerns with the proposed use revisions for Resley Creek, Indian Creek and South Leon River (all within segment 1221).

A revision from a presumed primary contact recreation use to a secondary recreation 2 use is proposed for Resley Creek (identified as 1221A in the RUAA). Several factors in the UAA indicate that primary contact activities are occurring in limited areas and that there is easy access to Resley Creek at several points. In the narrative summary of the 2009 field investigations, "Frequently" is recorded for primary contact (and the other three subcategories) in Table 7 - RUAA summary for each stream. The 2009 RUAA also noted that there are “substantial pools over 1 meter,” even though Resley Creek is intermittent.

Interviews with a landowner at site 7 on Resley Creek reported swimming and wading by children for each category of use (personal, observed and "heard of"). Additionally, pools of almost a meter depth were recorded at site 7. Although this is located on private property, the Excel spreadsheet from the 2011 RUAA (“Access Opp” tab) describes easy access from upstream and downstream points. For the sites in or near the City of Dublin, both a park and a playground were identified. The description of “limited public access” for the secondary contact recreation 2 use does not seem applicable for Resley Creek. An inner tube was found at one site, along with children's toys at the same site and the next downstream site in the 2009 sampling. During the additional sampling in 2011, inner tubes and children's toys were found again. Although low flow conditions exist in Resley Creek, EPA recommends retaining the primary contact recreation use based on interviews in the RUAA, access at several points, the presence of persistent pools and evidence of primary contact activities.

A revision from a presumed primary contact recreation use to a secondary recreation 2 use is also proposed for Indian Creek (identified as 1221D in the RUAA). EPA agrees that low flow conditions exist in Indian Creek. Receiving water assessments (RWAs) conducted in 1998 and 1999 for an aquatic life UAA also documented low flow conditions in Indian Creek. The aquatic life UAA was conducted at one site upstream of the City of Comanche's wastewater facility, following the previously established protocols for determining aquatic life uses in unclassified streams. At that site, the maximum pool depth in 1998 was 0.6 feet, but was deeper in 1999 (2.9 feet). It is not clear why the summary information in Table 7 of the 2009 surveys states that no substantial pools were found in Indian Creek. The 2011 survey spreadsheet record pools over 1 meter at sites 1, 8 and 9 (please see tab "Project Data" columns T-X). Although much of the lands adjacent to Indian Creek are private property, the 2009 RUAA documented a public park in the City of Comanche near sites 3 and 4, as well as a neighborhood near site 5. The 2011 RUAA survey noted easy access at each of these sites. Sites 1 and 9 are located on private property, however, site 8 is accessible at a bridge crossing (bridge also found at site 9). In the 2009 survey, "very deep" was used to describe sites 9 and 10 in column BC (tab "All Full Surveys). Based on the public access at least three of the sites, we believe that the secondary contact recreation 1 use is more appropriate, if primary contact recreation is not retained.

We also recommend that additional review of the RUAA for the proposed secondary contact recreation 1 use for South Leon River (1221B). Only four interviews could be conducted on this water body, but a rope swing was found. One of the interviewees noted that they had heard of children wading and another had witnessed wading. Access was limited at most or all sites, either by private property or deep stream banks. Of the ten sites listed on the "All full surveys" tab, column BY (“enough water for primary contact”) included "yes" for five sites of ten sites. Based on these factors, we recommend retaining the primary contact recreation use.

Finally, we believe it would be beneficial to include unclassified water bodies in Appendix G, for which the primary contact recreation use will be retained based on an RUAA. From the informal public participation periods previously conducted by TCEQ, these water bodies include Martin Branch (within segment 0810), Pecan Creek (within segment 1221) and Plum Creek (within segment 1221).